

1-56. (CANCELED)

57. (CURRENTLY AMENDED) ~~The method according to claim 56, wherein A~~ ~~method of producing a modified conductive surface, wherein a nucleic acid oligomer or a nucleic acid oligomer modified by attaching a redox-active substance that is selectively oxidizable and reducible at a potential ϕ with $2.0 \text{ V} \geq \phi \leq -2.0 \text{ V}$, measured against normal hydrogen electrode, is hybridized with the nucleic acid oligomer strand complementary to the nucleic acid oligomer or the modified nucleic acid oligomer and applied to a conductive surface in the form of the double-strand hybrid; and~~

the double-strand hybrid is thermally dehybridized following application to the conductive surface.

58. (CANCELED)

59. (CANCELED)

60. (CURRENTLY AMENDED) A method of producing a modified conductive surface, wherein a nucleic acid oligomer or a nucleic acid oligomer modified by attaching a redox-active substance that is selectively oxidizable and reducible at a potential ϕ with $2.0 \text{ V} \geq \phi \geq -2.0 \text{ V}$, measured against normal hydrogen electrode, ~~is hybridized with the nucleic acid oligomer strand complementary to the nucleic acid oligomer or the modified nucleic acid oligomer and applied to a conductive surface in the form of the double-strand hybrid, and~~ is applied to the conductive surface in a buffer with no conducting salt added, to reduce electrostatic shielding of the nucleic acid oligomer, and thereafter, further chemical compounds also attached to the conductive surface are applied to the conductive surface.

61-65. (CANCELED)

66. (CURRENTLY AMENDED) ~~The method according to claim 56, wherein A~~ ~~method of producing a modified conductive surface, wherein a nucleic acid oligomer or a nucleic acid oligomer modified by attaching a redox-active substance that is selectively oxidizable and reducible at a potential ϕ with $2.0 \text{ V} \geq \phi \leq -2.0 \text{ V}$, measured against normal hydrogen electrode, is hybridized with the nucleic acid oligomer strand complementary to the nucleic acid oligomer or the modified nucleic acid oligomer and applied to a conductive surface in the form of the double-strand hybrid; and~~

the nucleic acid oligomers or the modified nucleic acid oligomers are covalently attached to branched or linear molecular moieties of any composition and chain length

and these molecular moieties are attached to the conductive surface covalently or by means of physisorption.

67-70. (CANCELED)

71. (CURRENTLY AMENDED) ~~The method according to claim 56, wherein A method of producing a modified conductive surface, wherein a nucleic acid oligomer or a nucleic acid oligomer modified by attaching a redox-active substance that is selectively oxidizable and reducible at a potential ϕ with $2.0 \text{ V} \geq \phi \leq -2.0 \text{ V}$, measured against normal hydrogen electrode, is hybridized with the nucleic acid oligomer strand complementary to the nucleic acid oligomer or the modified nucleic acid oligomer and applied to a conductive surface in the form of the double-strand hybrid; and~~

one or more kinds of nucleic acid oligomers in the form of the double-strand hybrid are bound to a conductive surface and only the nucleic acid oligomers bound to the conductive surface are modified by attaching a redox-active substance to the nucleic acid oligomers.

72-83. (CANCELED)

84. (PREVIOUSLY PRESENTED) A method of producing a modified conductive surface, wherein a nucleic acid oligomer or a nucleic acid oligomer modified by attaching a redox-active substance that is selectively oxidizable and reducible at a potential ϕ with $2.0 \text{ V} \geq \phi \leq -2.0 \text{ V}$, measured against normal hydrogen electrode, is hybridized with the nucleic acid oligomer strand complementary to the nucleic acid oligomer or the modified nucleic acid oligomer and applied to a conductive surface in the form of the double-strand hybrid, which is thermally dehybridized following application to the conductive surface.

85. (PREVIOUSLY PRESENTED) The method according to claim 84, wherein the double-strand hybrid is applied to the conductive surface in the presence of further chemical compounds also attached to the conductive surface.

86. (PREVIOUSLY PRESENTED) The method according to claim 84, wherein the nucleic acid oligomers or the modified nucleic acid oligomers are attached to the conductive surface covalently or by means of physisorption.

87. (PREVIOUSLY PRESENTED) The method according to claim 84, wherein the nucleic acid oligomers or the modified nucleic acid oligomers are covalently attached to branched or linear molecular moieties of any composition and chain length

and these molecular moieties are attached to the conductive surface covalently or by mean so physisorption.

88. (PREVIOUSLY PRESENTED) The method according to claim 84, wherein one or more kinds of nucleic acid oligomers in the form of the double-strand hybrid are bound to a conductive surface and only the nucleic acid oligomers bound to the conductive surface are modified by attaching a redox-active substance to the nucleic acid oligomers.